



Sequence Listing

<110> APROGEN INC.  
<120> HUMANIZED ANTIBODY AND PROCESS FOR PREPARING SAME  
<130> PCA30215/APG  
<140> US/10/508,759  
<141> 2004-09-22  
<150> KR10-2002-0015708  
<151> 2002-03-22  
<160> 38  
<170> KopatentIn 1.71  
<210> 1  
<211> 345  
<212> DNA  
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<220>  
<223> Variable region of humanized light chain HZVII

<400> 1  
caggtccagc tgggtgcagtc tggagctgaa gtgaagaagc ctggggcctc agtgaaggtt 60  
tcctgcaaag cttctggcta caccttcacc agtgcttgga tgaactgggt gcgacaggcc 120  
cctggacagg gtcttgagt gatgggacgg atttatccta gtggtggaag cactagctac 180  
gcacagaagt tccagggcag agtcacaatg actgcagaca aatccacgag cacagtctac 240  
atggagctca gcagcctgag atctgaggac acggcgggtgt attactgtgc aagagagtac 300  
cgggttgccc gttggggcca aggaactctg gtcactgtct cttca 345

<210> 2  
<211> 115  
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<220>  
<223> Variable region of humanized light chain HZVII

<400> 2  
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Ala Pro Gly Ala  
1 5 10 15  
Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Ala  
20 25 30  
Trp Met Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met  
35 40 45  
Gly Arg Ile Tyr Pro Ser Gly Gly Ser Thr Ser Tyr Ala Gln Lys Phe  
50 55 60  
Gln Gly Arg Val Thr Met Thr Ala Asp Lys Ser Thr Ser Thr Val Tyr  
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys  
85 90 95

Ala Arg Glu Tyr Arg Val Ala Arg Trp Gly Gln Gly Thr Leu Val Thr  
100 105 110

Val Ser Ala  
115

<210> 3  
<211> 336  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Variable region of humanized light chain HZIV

<400> 3  
gatatcgtga tgacccaaac tccactttct ttgtcgggta ccctggaca accagcctct 60  
atctcttgca agtcaagtca ggcctctta tatagtaatg gaaaaaccta tttgaattgg 120  
ttattacaga agccaggcca gcctccacag cgcctaattc atctgggtgtc taatcgggac 180  
tctggagtcc ctgacagggt cagtggcagt ggatcaggaa cagattttac actgaaaatc 240  
agcagagtgg aggctgagga tgttgaggtt tattactgcg tgcaagggtac acattttcct 300  
cagacgttcg gtggaggcac caaggtggaa atcaaa 336

<210> 4  
<211> 112  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Variable region of humanized light chain HZIV

<400> 4  
Asp Ile Val Met Thr Gln Thr Pro Leu Ser Leu Ser Val Thr Pro Gly  
1 5 10 15  
Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu Tyr Ser  
20 25 30  
Asn Gly Lys Thr Tyr Leu Asn Trp Leu Leu Gln Lys Pro Gly Gln Pro  
35 40 45  
Pro Gln Arg Leu Ile Tyr Leu Val Ser Asn Arg Asp Ser Gly Val Pro  
50 55 60  
Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile  
65 70 75 80  
Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Val Gln Gly  
85 90 95  
Thr His Phe Pro Gln Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys  
100 105 110

<210> 5  
<211> 26  
<212> DNA  
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<220>  
<223> oligomer Ryu94

<400> 5  
gagaattcac attcacgatg tacttg 26

<210> 6  
<211> 33  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligomer HUR43-1

<400> 6  
ctgctgcagc tggacctgac tctggacacc att 33

<210> 7  
<211> 33  
<212> DNA  
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<220>  
<223> oligomer HUR44-1

<400> 7  
caggtccagc tgcagcagtc tggacctgaa ctg 33

<210> 8  
<211> 33  
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<223> oligomer HUR45-1

<400> 8  
tgggcccttg gtggaggctg cagagacagt gac 33

<210> 9  
<211> 33  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligomer HUR46-1

<400> 9  
gcctccacca agggcccatc ggtcttcccc ctg 33

<210> 10  
<211> 28  
<212> DNA  
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<220>  
<223> oligomer HUR31

<400> 10  
cagcggccgc tcatttaccg ggggacag

28

<210> 11  
<211> 26  
<212> DNA  
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<220>  
<223> oligomer Ryu86

<400> 11  
caaagcttgg aagcaagatg gattca

26

<210> 12  
<211> 27  
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<220>  
<223> oligomer HUR48

<400> 12  
caagatatcc ccacaggtac cagatac

27

<210> 13  
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<212> DNA  
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<223> oligomer HUR49

<400> 13  
tgtggggata tcttgatgac ccaaact

27

<210> 14  
<211> 27  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligomer HUR50

<400> 14  
cacagatctt ttgatttcca gcttggt

27

<210>	15	
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<210>	16	
<211>	58	
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<210>	17	
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	ccggaattca cattcacgat gtacttg	27
<210>	18	
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<220>		
<223>	oligomer YM003	
<400>	18	
	tgccccaga ggtgct	16
<210>	19	
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<220>		
<223>	oligomer ym257	
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<210>	20	
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<210>	21	
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<223>	oligomer YM004	
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<210>	22	
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<223>	oligomer YM009	
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gcagccaccg tacgtttgat ttccaccttg gt		32
<210>	23	
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<223>	oligomer Ryu 166	
<400>	23	
ggatttgtct gcagtcattg tggctctgcc ctggaactt		39
<210>	24	
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gacaaatcca cgagcacagt ctacatg		27

<210> 25  
<211> 33  
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<220>  
<223> oligomer Ryu 118

<400> 25  
ctgtggaggc tggcctggct tctgtaataa cca 33

<210> 26  
<211> 30  
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<220>  
<223> oligomer Ryu 119

<400> 26  
ggccagcctc cacagctcct aatctatctg 30

<210> 27  
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<220>  
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<400> 27  
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tcctgcaaag cttctggcta cgcattcagt agttcttgga tgaactgggt gaagcagagg 120  
cctggacagg gtcttgagtg gattggacgg atttatcctg gagatggaga tactaactac 180  
aatgggaagt tcaagggcaa ggccacactg actgcagaca aatcctccag cacagcctac 240  
atgcagctca gcagcctgac ctctgtggac tctgcggtct atttctgtgc aagagagtac 300  
gacgaggctt actggggcca agggactctg gtcactgtct ctgca 345

<210> 28  
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<212> PRT  
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<220>  
<223> variable region of humanized heavy chain KR127VH

<400> 28  
Gln Val Gln Leu Gln Ser Gly Pro Glu Leu Val Lys Pro Gly Ala  
1 5 10 15  
Ser Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Ala Phe Ser Ser Ser  
20 25 30

Trp Met Asn Trp Val Lys Gln Arg Pro Gly Gln Gly Leu Glu Trp Ile  
           35                          40                          45  
 Gly Arg Ile Tyr Pro Gly Asp Gly Asp Thr Asn Tyr Asn Gly Lys Phe  
           50                          55                          60  
 Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala Tyr  
           65                          70                          75                          80  
 Met Gln Leu Ser Ser Leu Thr Ser Val Asp Ser Ala Val Tyr Phe Cys  
                           85                          90                          95  
 Ala Arg Glu Tyr Asp Glu Ala Tyr Trp Gly Gln Gly Thr Leu Val Thr  
                   100                          105                          110  
 Val Ser Ala  
           115

<210> 29  
 <211> 336  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Variable region of humanized light chain KR127VK

<400> 29	
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atctcttgca agtcaagtca ggcctctta tatagtaatg gaaaaaccta tttgaattgg	120
ttattacaga ggccaggcca gtctcaaag cgcctaattct atctgggtgtc taaactggac	180
tctggagtcc ctgacagggt cactggcagt ggatcaggaa cagattttac actgaaaatc	240
atcagagtgg aggctgagga tttgggagtt tattactgcg tgcaaggtag acattttcct	300
cagacgttcg gtggaggcac caagctggaa atcaaa	336

<210> 30  
 <211> 112  
 <212> PRT  
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 <223> Variable region of humanized light chain KR127VK

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 Asp Ile Leu Met Thr Gln Thr Pro Leu Ile Leu Ser Val Thr Ile Gly  
   1                          5                          10                          15  
 Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu Tyr Ser  
           20                          25                          30  
 Asn Gly Lys Thr Tyr Leu Asn Trp Leu Leu Gln Arg Pro Gly Gln Ser  
           35                          40                          45  
 Pro Lys Arg Leu Ile Tyr Leu Val Ser Lys Leu Asp Ser Gly Val Pro  
           50                          55                          60  
 Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile



65		70		75		80
Ile Arg Val Glu	Ala Glu Asp Leu Gly Val Tyr Tyr Cys Val Gln Gly					
	85		90		95	
Thr His Phe Pro	Gln Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys					
	100	105		110		

<210> 31  
 <211> 294  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Variable region of humanized heavy chain DP7

<400> 31	
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tcttgcaagg catctggata caccttcacc agctactata tgcactgggt gcgacaggcc	120
cctggacaag ggcttgagtg gatgggaata atcaacccta gtggtggtag cacaagctac	180
gcacagaagt tccagggcag agtcaccatg accagggaca cgtccacgag cacagtctac	240
atggagctga gcagcctgag atctgaggac acggccgtgt attactgtgc gaga	294

<210> 32  
 <211> 98  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Variable region of humanized heavy chain DP7

<400> 32	
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala	
1 5 10 15	
Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Tyr	
20 25 30	
Tyr Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met	
35 40 45	
Gly Ile Ile Asn Pro Ser Gly Gly Ser Thr Ser Tyr Ala Gln Lys Phe	
50 55 60	
Gln Gly Arg Val Thr Met Thr Arg Asp Thr Ser Thr Ser Thr Val Tyr	
65 70 75 80	
Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys	
85 90 95	
Ala Arg	

<210> 33

<211> 302  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Variable region of humanized light chain DPK12

<400> 33  
gatattgtga tgaccagac tccactctct ctgtccgtca cccctggaca gccggcctcc 60  
atctcctgca agtctagtca gagcctcctg catagtgatg gaaagaccta tttgtattgg 120  
tacctgcaga agccaggcca gcctccacag ctctgatct atgaagtttc caaccggttc 180  
tctggagtgc cagatagggt cagtggcagc gggtcaggga cagatttcac actgaaaatc 240  
agccgggttg aggctgagga tgttgggggt tattactgca tgcaaagtat acagcttcct 300  
cc 302

<210> 34  
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<212> PRT  
<213> Artificial Sequence

<220>  
<223> Variable region of humanized light chain DPK12

<400> 34  
Asp Ile Val Met Thr Gln Thr Pro Leu Ser Leu Ser Val Thr Pro Gly  
1 5 10 15  
Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu His Ser  
20 25 30  
Asp Gly Lys Thr Tyr Leu Tyr Trp Tyr Leu Gln Lys Pro Gly Gln Pro  
35 40 45  
Pro Gln Leu Leu Ile Tyr Glu Val Ser Asn Arg Phe Ser Gly Val Pro  
50 55 60  
Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile  
65 70 75 80  
Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln Ser  
85 90 95  
Ile Gln Leu Pro  
100

<210> 35  
<211> 345  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Variable region of humanized heavy chain HZI

<400> 35  
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tcctgcaaag cttctggcta cgcattcagt agttcttgga tgaactgggt gcgacaggcc	120
cctggacagg gtcttgagtg gattggacgg atttatcctg gagatggaga tactaactac	180
gcacagaagt tccagggcaa ggccacactg actgcagaca aatccacgag cacagcctac	240
atggagctca gcagcctgag atctgaggac acggcgggtct atttctgtgc aagagagtac	300
gacgaggctt actggggcca aggaactctg gtcactgtct ctca	345

<210> 36  
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 <212> PRT  
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 <223> variable region of humanized heavy chain HZI

<400> 36  
 Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Val Lys Pro Gly Ala  
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 Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ala Phe Ser Ser Ser  
 20 25 30  
 Trp Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile  
 35 40 45  
 Gly Arg Ile Tyr Pro Gly Asp Gly Ser Thr Ser Tyr Ala Gln Lys Phe  
 50 55 60  
 Gln Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr  
 65 70 75 80  
 Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Phe Cys  
 85 90 95  
 Ala Arg Glu Tyr Asp Glu Ala Tyr Trp Gly Gln Gly Thr Leu Val Thr  
 100 105 110  
 Val Ser Ser  
 115

<210> 37  
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 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> variable region of humanized light chain HZI

<400> 37	
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atctcttgca agtcaagtca gagcctctta tatagtaatg gaaaaaccta tttgaattgg	120
ttattacaga agccaggcca gtctccaaag cgcctaattct atctggtgtc taaactggac	180
tctggagtcc ctgacaggtt cagtggcagt ggatcaggaa cagattttac actgaaaatc	240
agcagagtgg aggctgagga tgttggagtt tattactgcg tgcaagggtac acattttcct	300

cagacgttcg gtggaggcac caaggtggaa atcaaa

336

<210> 38  
<211> 112  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Variable region of humanized light chain HZI

<400> 38  
Asp Ile Leu Met Thr Gln Thr Pro Leu Ser Leu Ser Val Thr Pro Gly  
1 5 10 15  
Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu Tyr Ser  
20 25 30  
Asn Gly Lys Thr Tyr Leu Tyr Trp Leu Leu Gln Lys Pro Gly Gln Ser  
35 40 45  
Pro Lys Arg Leu Ile Tyr Leu Val Ser Lys Leu Asp Ser Gly Val Pro  
50 55 60  
Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile  
65 70 75 80  
Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Val Gln Gly  
85 90 95  
Thr His Phe Pro Gln Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys  
100 105 110